

## A GREEN SEGMENTATION: IDENTIFYING THE GREEN CONSUMER DEMOGRAPHIC PROFILES IN SRI LANKA

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### **Abstract:**

Today, many companies are trying to practice green marketing while consumers are motivating to change their consumption patterns in order to reduce environmental harm. Research indicates that the environment has had an explicit impact on consumer behaviour according to their environmental awareness, knowledge and beliefs have become effective contributor to identify target markets and motivate consumers to engage in green purchasing behaviour.

Therefore, the purpose of this paper is to identify distinct market segments based on environmental knowledge and green purchasing behavioural intention of eco-friendly food products. Thus this study empirically investigated how consumers who differ in terms of environmental knowledge/cognitive perspective, beliefs and understand an appropriate green consumers' market segments through demographic profiles in Sri Lankan consumers.

A sample of 233 consumers was used for the data analysis. Dimensions and variables for the study were identified and they were measured through Likert-type scale. The data were collected principally a self-administered questionnaire and analysed using both descriptive measures and correlations between variables.

The research found that age influence the consumer's intention to buy green products. The consumers above 45 years have less environmental knowledge but would have intention to pay more for green products and can be targeted as emerging green consumers in Sri Lanka.

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Consumers who are in young age category show more environmental awareness & knowledge but are highly price sensitive customers who can be targeted as price sensitive green consumers. However, this study did not identify environmentally green consumers who are environmentally concerned and willing to go with green every time in the Sri Lankan context.

This paper serves as a pioneer study to identify demographic profiles and green consumer segment in the Sri Lankan context and therefore, this paper offers some insights in green strategies to Sri Lankan businesses.

**Key Words:** Green Marketing, Green consumer, Green consumer Behaviour, Green segmentation, Demographic profiles, Cognitive perspective, Green products purchasing intention.

## **1. Introduction:**

Environmental concern and the demand by consumer groups for environmentally friendly products have led to the emergence of new marketing philosophy known as “Green Marketing”. The modern marketing managers have in turn the recognized the strategic importance of the green marketing in finding responses to the environmental needs of consumers to make necessary marketing strategies for sustainable business practices. Thus, moving consumption pattern towards more eco-friendly way imply a deeper understanding of green consumers’ behaviour. These new emerging new marketing philosophies empower organization to address sustainability issues and are seen as valuable strategies to improve a company’s competitiveness (Fraj-Andres et al 2009).

Within this context, both theoretical and empirical research studies on environmentally conscious/ green consumers have grown exponentially over the five decades until now. This research stream is deal with both macro and micro marketing issues. With reference to these research stream, macro-marketing issues that are relating to green consumer behaviour and micro-marketing issues relating to consumers interest, literacy/ awareness of environmental problems. Micro-marketing issues are specially describing the nature of green consumers, and

investigating the nature of green consumer segments using different variables and classifications (Kilbourn & Beakmann, 2008). Here, research tends to be very specific and fragmented with sharing common objectives for identification of environmental consciousness of consumers. Research is also paid more attention to identify different market segments of green consumers; assessing on the role of demographic, socio-psychology and other factors in segmenting the market and sketching the profile of green consumers (Anderson et al, 1974; Diamantopoulos et al 2003).

This study is focused on analysing green consumer segments to consumer market in Sri Lanka. Thus, this paper includes the following major sections; the first brief description about the concepts of green marketing, consumer classification according to the level of environmental cognitive aspect and then the importance of market segmentation and criteria for market segments are highlighted. Next, include the methodology and empirical finding together with demographic segmentation variables. The final section presents some marketing implication and conclusions.

## **2. Problem of the Study:**

In literature, the green marketing encounters specific challenges determined by the variability of demand all over the world, high costs of green products, and unfavourable attitudes and image of ecologically friendly products ((Johri & Sahasakmontri 1998). Although main market for green products are highly emphasized in developed economies, the practice of green marketing and the force of 'going green' are now extending to the Asian region where environmental threats are disturbing governments and citizens. Sri Lanka is as Asian society, its environment quality legs far behind when compared to the developed countries. Research evidence suggested that citizens in Asian societies are increasingly becoming conscious of alarming environmental problems and government policies and business strategies in many Asian countries are being reshaped to give more consideration to long-term sustainable developments including environmental protection (Johri & Sahasakmontri, 1998).

In line with this aspect, demand for green products and identifying green consumers are creating new business opportunities for Sri Lanka as emerging or transition economies. Thus the problem

of this study is to empirically investigate *how consumers who differ in terms of environmental s, beliefs/attitudes and understand an appropriate green consumers' market through demographic profiles in Sri Lanka.*

### **3. Objective of the Study:**

The main objective of this study is attempted to identify the main demographic characteristics of a green consumer and to base them empirically on the example of Sri Lankan consumers of eco-friendly food products.

It focuses on achieving the following sub objectives in order to address the above major objective:

1. To explain the relationship between Sri Lankan consumers' knowledge or cognitive perspective (i.e., awareness and concern of the environmental problems) about the environmental issues and green products purchase intention.
2. To examine the association between environmental knowledge and demographic variables of consumers.
3. To elucidate the link between consumers' environmental knowledge, demographic variables and green products purchasing intention.

In addition, it identifies interactive role of consumers' demographics on the relationship among above variables related to theoretical framework developed by D'Souza (2004).

### **4. Literature Review and Hypotheses Development:**

#### **4.1 Green marketing**

Green marketing has become an important area in the marketing literature; it has been used to describe marketing activities that attempt to reduce the negative social and environmental impacts of business. The 1990s have been highlighted as the decade of the environment and during this decade, socially responsible environmental concern has become on a greater importance for consumer purchasing decisions (Menon et al 1999, Prothero, 1996). It can be

therefore, be said that consumer demand for green products are driving forces behind the green marketing practices, the aim is to achieve a balance between the company objectives and society and environmental concern. Thus, green marketing is key feature for emerging marketing decision making and it can be defined as ‘the holistic management process responsible for identifying, anticipating and satisfying the needs of consumers and society, in a profitable and sustainable way’ (Peattie & Charter 1997). Further, Simintiras et al., (1994) define greening which centres on the marketing mix elements; “the specific development, pricing, promotion, and distribution of products that do not harm the environment.”

According to Polonsky (1994) green marketing consists of all activities designed to generate and facilitate any exchanges intended to satisfy human needs or wants with minimal detrimental impact on the natural environment. He suggests that “green marketing incorporates a broad range of activities including product modification, changes to production process, packaging changes, as well as modifying advertising.” Furthermore, Welford (1995) describes that green marketing must encompass all the operations and activities of the firm, fully examine the life cycle impact, and look carefully the firm’s corporate image. Thus, green marketing deals with a wide range of issues in order to protect the environment. Organisations have introduced new green products that incorporate changes in production processes, packaging and labelling, modifying products, price, place, as well as advertising. However, there are no agreed-upon/exact criteria for what constitute environmentally safe products or services. So some generally acceptable criteria are used to illustrate ‘green products’; e.g. do not cause people or animals ill health or damage the environment.

#### 4.2 Green Consumer & Segmentation of the Green Consumer Market

Simply, the green consumer is a person who seeks out environmentally friendly products to buy. In the existing literature, a green consumer is often defined as a person who shows a form of “pro-social” consumer behaviour (Wiener and Doesher, 1991) or is an “environmentally conscious consumer” (Schwepker and Cornwell, 1991; Bohlen et al., 1993) or shows “pro-environmental” purchasing behaviour (Schlegelmilch et al., 1996). This is basically people whose behaviour reflects a relatively consistent and conscious concern for the environmentally

friendly purchase, use or disposal of particular products. According to Webster (1975) defined a socially conscious consumer (green consumer) as a consumer who takes into account the public consequences of his/her private consumption or who attempts to use his/her purchasing power to bring about social change, i.e., consumers incorporate social/environmental issues (eg.; an individual concerned about the amount of garbage generated) into their purchase decisions by evaluating the environmental consequences (e.g., could consider the recyclable packaging) associated with the purchase of a product. Basically, these products not only satisfy a consumer's instant needs and wants, but also serve to benefit to the environment in the long run. Further, Strong (1996, P.5) defines that green consumers are "those who avoid products that are likely to endanger the health of the consumers or others; cause significant damage to the environment during manufacture, use or disposal; consume a disproportionate amount of energy; cause unnecessary waste; use material derived from threatened species or the environment. In line with the above definitions, operational definition of green consumer for this study is used as "consumer who purchases products and services which he/she perceives to have a positive impact on the environment or pro-environmental attitudes.

However, in the market, there appear more and more so called green consumers who cannot be disregarded by modern companies striving both to maximize profit and to search for solutions to society problems (D'Souza et al 2006). Thus, knowledge, awareness and changing preferences of consumers are also driving forces for business to become better environmental stewards (Olson, 2009). In this context, the marketing of modern companies is becoming more and more focused on environmental issues communication with consumers and created environmental friendly products for them. Thus, they attempt to understand green consumers by using various segmentation bases specially, the demographic, psychographic and behavioural criteria. However, this study is only limited to demographic profile as initial study for identifying green consumers.

### 4.3 Conceptualization and Hypotheses Development

In order to understand a green consumer better, it is necessary to investigate their demographic characteristics which is possible to choose effective solution for green marketing. Demographic

characteristics of a green consumer that reflect such consumer attributes as age, gender, education, marital status, income or purchasing power and so forth. Indeed, it can be concluded that numerous researchers explain characteristics of the green consumers explained to reflect and profile green consumers but it is still inconclusive and vary with different context and therefore it is the major aspects for this study especially in Sri Lankan cultural contexts to identify green consumers.

### **Age of a Green Consumer**

The criteria “age” has been examined by various green marketing researches (Anderson et al, 1974; D’Souza et al, 2006, 2007; Diamantopoulos et al 2003, Roberts, 1996). However, these studies have not revealed consistence results. Some studies are suggesting that there is a positive relationship between age and environmental behaviour (Roberts, 1996) while some other studies were indicated that there is a significant negative relationship (Anderson et al, 1974; Van & Dunlap 1981; Zemmer et al, 1994). Further, D’Souza et al (2007) explained that the average age of consumer is lower than that of typical consumer, i.e., young people are more likely to be sensitive to environmental issues. Some results indicate that young consumers in Hong Kong would be more concerned to buy green products. However, some studies reveal opposite results either (do Paco et al, 2009). Ottman & Reilly (1998) shows that green consumers are usually belong to the age group of 30-44. Thus, it is hypothesized that:

***H1: Age influences the consumer’s intention to buy green food products.***

### **Gender of a Green Consumer**

Empirical studies have led to argue that women are more likely to present pro-environmental behaviour, i.e., women are more sensitive to environmental issues and perceive them better than men do (do Paco et al, 2009; Ottman & Reilly 1998). Some studies prove that men possess deeper knowledge on environmental issues, whereas women care about the quality of environment more (D’Souza et al 2007; Mostafa, 2007). But, these studies have not always produced similar findings and therefore gender may be support to understand the green consumer in different context. Thus, it is hypothesized that:

***H2: Gender influences the consumer’s intention to buy green food products.***

### **Education levels and a Green Consumer**

Most of the empirical studies found that a positive association between the variable education level and environmental attitudes or behaviour (Anderson et al, 1974; Roberts, 1996; Van & Dunlap 1981; Zemmer et al, 1994). Some studies have found that better educated consumers perceive environmental issues better and are more sensitive to them (D'Souza et al 2007; do Paco et al, 2009). However, some other studies have noted that level of education is negatively correlated with environmental behaviour (Samdahl & Robertsons , 1989) and explained that there was no significant correlation between education and green purchasing intention (Kinnear et al, 1974). Thus, it is hypothesized that:

***H3: Education influences the consumer's intention to buy green food products***

### **Income/Purchasing Power and a Green Consumer**

In general believe that income seems to be positively associated with the environmental behaviour. The most common factor for this situation is based on the fact that consumers with a high income level can more easily bear the higher costs associated with green causes and buying green products (Straughan & Roberts, 1999). For example: Ottman & Reilly (1998) noted that consumers who have higher than average purchasing power are more sensitive to environmental issues when compare to those who receive average income. Same result has found by de Paco et al (2009) and they highlighted those consumers who have low income pay less attention to eco-friendly products than conventional product prices. Thus, it is hypothesized that:

***H4: Purchasing power influences the consumer's intention to buy green food products.***

### **Marital Status and a Green Consumer**

It is generally accepted that more married people with children have high intention to purchase quality green food for them. Therefore, this study takes marital status as new demographic variable to understand the new market segments in Sri Lanka. Thus, it is hypothesized that:

***H5: Marital status influences the consumer's intention to buy green food products***

Demographic profile of a green consumer incorporate with the contemporary literature indicates that well educated consumers who have middle and high incomes and belong to mature age group may considered to be more involved into eco-friendly products purchase behaviour.



## 5. Methodology:

The study attempts to empirically investigate how consumers in Sri Lanka differ in terms of environmental consciousness in their buying decisions and categorize these (green) consumers into market segments through their demographic profiles. In pursuance of the study objective, the research design employed for the present study is basically a survey research approach. The unit of the analysis was Sri Lankan customers who were buying eco-friendly food products and who agreed to participate in the study were selected. A sample of 250 consumers was selected using judgmental sampling procedure covering a range of diverse demographic profiles. However, only 233 questionnaires were chosen to be relevant when analyzing data. The data was collected primarily by using a self-administered questionnaire and a questionnaire mainly consisting of 5 point -Likert scales (Strongly Agree – Strongly Disagree). The questionnaire was consisted of three parts. In the first part examines the consumer's cognitive perspective about the environmental dimensions (i.e., awareness, Knowledge, concern of the environmental issues). The second part examines the consumer's intention to purchase green food products based on product benefits and product risks. In the third section, data are collected about the demographic characteristics of respondents.

The study was carried out to confirm the reliability of the constructs. Cronbach's alpha was calculated to measure the reliability / internal consistency of the measurement scales, e.g., Cronbach's alpha of cognitive perspective was 0.85 and product benefits/ risks was 0.76. Therefore construct reliability was high and well above the cut-off point of 0.70 (If the value is  $\geq 0.7$ , the scales were sufficiently reliable Nunnally, 1967). The face validity of the scales was assured through experts' reviews and literature survey. In order to test the dimensionality of the measurement constructs, an exploratory factor analysis was performed by following the procedure recommended by Churchill (1979). A few in-depth- interviews with a few customers are also carried out to improve understanding of the quantitative findings of the study.

Data analysis strategy in the study consists of descriptive statistical analysis, inferential statistic analysis, i.e., parametric statistical test to make inferences about the different groups of target population comparing mean difference (one way ANOVA). The Statistical Package for Social Sciences (SPSS) version 16.0 was used for data analysis.

## 6. Results of the Findings:

The finding about demographic profiles of green food products purchasing intention/behaviour in Sri Lanka reflected that age (P Value =0.02) and purchasing power (P value =0.04) have significant correlations. However, gender, education and marital status were not significantly correlated to the green food product purchasing behaviour. Though most of the prior researches (i.e., Ottman & Reilly,1998) have noted that well educated consumers are more sensitive to environmental friendly buying this study finding was inconsistent with it The results of the study are given in table-1.

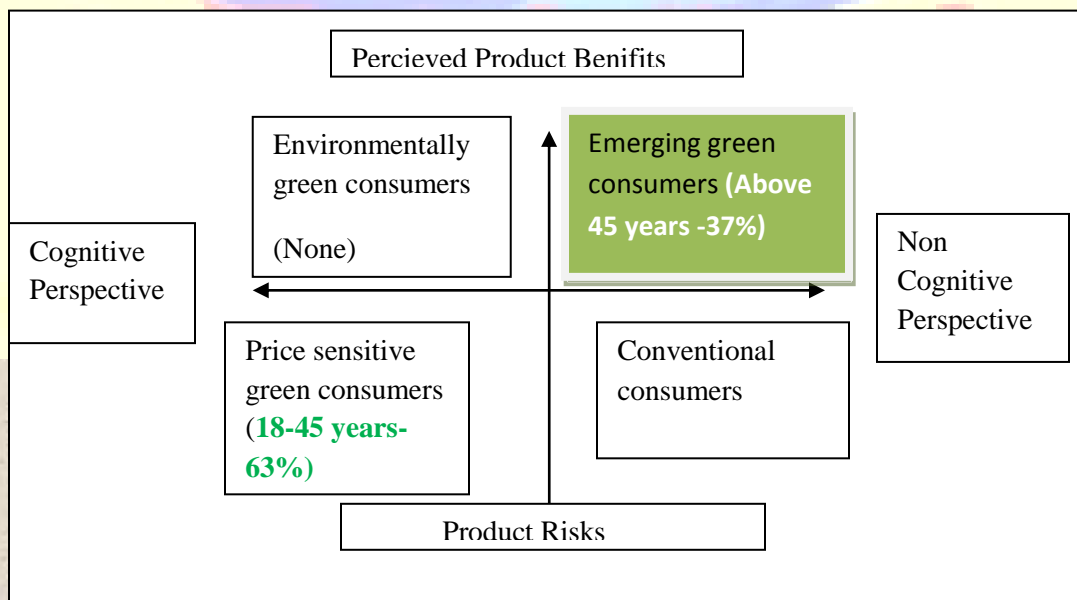
**Table 1: Summary of Test of Hypotheses**

Hypothesis	Significance level (at p value<0.05)	Accept/Reject
<b><i>H1: Age influences the consumer's intention to buy green food products</i></b> (There were mean differences among age groups at =P=0.05)	<b>P= 0.02</b>	<b>Accepted</b>
<b><i>H2: Gender influences the consumer's intention to buy green food products.</i></b> (There were no mean differences among age groups at =P=0.05)	<b>P=0.43</b>	<b>Rejected</b>
<b><i>H3: Education influences the consumer's intention to buy green food products Income/Purchasing Power and a Green Consumer</i></b> (There were no mean differences among age groups at =P=0.05)	<b>P=0.07</b>	<b>Rejected</b>
<b><i>H4: Purchasing power influences the consumer's intention to buy green food products.</i></b> (There were mean differences among age groups at =P=0.05)	<b>P=0.04</b>	<b>Accepted</b>
<b><i>H5: Marital status influences the consumer's intention to buy green food products</i></b> (There were mean differences among age groups at =P=0.05)	<b>P=0.77</b>	<b>Rejected</b>

Source: Survey Data Analysis

The consumers above 45 years have less environmental knowledge but would prefer to pay more for green food products in Sri Lanka. According to the D'Souza et al (2007) this segment/group can be targeted as emerging green consumers who highly regard benefits or quality of environment friendly/green products. A relatively, 37% of respondents are more health consciousness and would prefer to consume high quality healthy foods and willing to pay for more these products. Further, consumers who are in between 18-45 age category show that more environmental knowledge and awareness (i.e., pretending behaviour) but are highly price sensitive green consumers who can be targeted as price sensitive green consumers (D'Souza et al (2007). i.e., these consumers check the green information but do not have intention to pay more for green products. Here, a large percentage of respondents (63%) indicated that they perceive the environmental friendly products to be more expensive than the alternative products. However, this study did not identify environmentally green consumers who are highly environmental concerned and wiling to go with green every time in the Sri Lankan Context. Theses segments can be further explained by using a two-dimensional of cognitive perspective of environmental products (D'Souza, 2004) and it is given in figure -1.

**Figure – 1: Empirically validated conceptual study model:**



## **7. Conclusion, Managerial Implications and Future Research:**

Based on the above empirical findings, it is evident that in Sri Lankan context, consumer's age and income/purchasing power are significant demographic variables for green segments. With reference to the managerial perspective, environmental issues have been shaped new business opportunities to be responsive. Thus, companies which are producing higher quality green food products with a premium price can be targeted emerging green consumers. For price sensitive consumers, companies can be offered comparable product quality standards at competitive prices through technology advancement to create lower cost based production processes. Further, companies need to be used proper marketing information (i.e., green labels, green advertising, and better word of mouth about green products) to change beliefs of the nature and society to convert consumers into environmentally green consumer segments.

This study has only limited to demographic variables of green segments and provides some ideas basically using conceptual model of D'Souza (2004) and therefore, future studies should explore how antecedents and outcomes of consumers' environmentally friendly beliefs and behaviour affect in developing context like Sri Lanka. It is also possible to empirically investigate all the segmentation variables such as psychographic criteria and behavioural criteria affecting green consumer behaviour intention in Sri Lankan context in future research.

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